## Remarks

Reconsideration of the present application is respectfully requested in view of the foregoing amendments and following remarks. Claims 1-22 and 24-36 are pending in the application. No claims have been allowed. Claims 1, 32, 35, and 36 are independent. Claim 23 has been canceled. Claims 1-22 and 24-36 have been rejected. These rejections are respectfully traversed.

### *In the Specification*

Applicants respectfully note that the Specification has been amended to add the Application Number of the related application as well as the language "incorporated by reference."

### *Double Patenting*

Claims 9-13, 15-22, 24-29, and 35 have been rejected as being unpatentable over claims 2-6, 8-15, and 17-23 of co-pending Application No. 09/883,838. A timely filed terminal disclaimer in compliance with 37 C.F.R. 1.321(c) may be used to overcome these rejections. Applicants respectfully submit that such a terminal disclaimer is hereby filed with this Amendment. Therefore, Applicants respectfully request that these double patenting rejections be withdrawn from claims 9-13, 15-22, 24-29, and 35.

### *Patentability under 35 U.S.C. § 112*

Claim 23 has been rejected under 35 U.S.C. § 112, first and second paragraphs.

Applicants respectfully note that claim 23 has been canceled.  Therefore, Applicants respectfully

submit that the rejections are now moot.

### *Patentability of Claims 1-12, 14-22, 24-27, and 30-36 over Klein under 35 U.S.C. § 102(b)*

Claims 1-12, 14-22, 24-27, and 30-36 have been rejected under 35 U.S.C. § 102(b) as

being unpatentable over U.S. Patent No. 5,771,370 to Klein ("Klein").  These rejections are

respectfully traversed.

### *Claims 1-12, 14-22, 24-27, 30, and 31*

Independent claim 1 is directed to a method, and requires: "receiving the **state**

**information** from the first simulation model" (emphasis added).  For example, the present

application states at page 14, lines 3-4: "In one embodiment, the state information comprises

addresses within the circuit design."  The present application also states, at page 14, lines 11-12:

"In one embodiment of a transaction-based control, the state information comprises individual

data transactions."

As noted in the Office Action, Klein states at col. 14, lines 43-53:

> 6. The machine implemented method of claim 1, wherein said method further comprises
> the step of periodically suspending said simulation of software execution, switching from
> said simulation of software execution to said simulation of hardware operations, and
> subsequently returning to said simulation of software execution during said one or more
> co-simulation runs, <u>such that simulation time can be dynamically as well as statically
> configured/reconfigured to be optimized</u>, and yet said simulation of hardware operations
> is nevertheless ensured to advance in a desired manner relative to said simulation of
> software execution (emphasis added).

Therefore, Klein is understood as describing a system that suspends simulation of software

execution, switches from that simulation to simulation of hardware operations, and returns to the

software simulation. These steps are understood to be performed in a manner that allows for

optimization of simulation time but have nothing to do with state information, much less sending

or receiving state information.

As such, Klein fails to teach or suggest state information, much less receiving the state

information from the first simulation model, as recited in independent claim 1. Accordingly,

Applicants respectfully request that the 35 U.S.C. § 102(b) rejection of independent claim 1 be

withdrawn.

Dependent claims 2-12, 14-22, 24-27, 30, and 31 depend directly or indirectly from

independent claim 1 and are allowable for at least the reasons recited above with respect to their

parent claim 1. Moreover, claims 2-12, 14-22, 24-27, 30, and 31 recite combinations of features

that are independently patentable. Accordingly, Applicants respectfully request that the 35

U.S.C. § 102(b) rejections of dependent claims 2-12, 14-22, 24-27, 30, and 31 be withdrawn.

*Claims 32-34*

Independent claim 32 is directed to a method, and requires: "reading **state information**

form a first simulation model in a simulation environment when a simulation domain of the first

simulation model is deactivated" (emphasis added).

As noted in the Office Action, Klein states at col. 14, lines 43-53:

6. The machine implemented method of claim 1, wherein said method further comprises
the step of periodically <u>suspending</u> said simulation of software execution, <u>switching</u> from
said simulation of software execution to said simulation of hardware operations, and
subsequently <u>returning</u> to said simulation of software execution during said one or more
co-simulation runs, such that <u>simulation time can be dynamically as well as statically</u>
<u>configured/reconfigured to be optimized</u>, and yet said simulation of hardware operations

is nevertheless ensured to advance in a desired manner relative to said simulation of
software execution (emphasis added).

Therefore, Klein is understood as describing a system that suspends simulation of software

execution, switches from that simulation to simulation of hardware operations, and returns to the

software simulation.  These steps are understood to be performed in a manner that allows for

optimization of simulation time but have nothing to do with state information, much less reading

or writing state information.

As such, Klein fails to teach or suggest state information, much less reading state

information from a first simulation model, as recited in independent claim 32.  Accordingly,

Applicants respectfully request that the 35 U.S.C. § 102(b) rejection of independent claim 32 be

withdrawn.

Dependent claims 33 and 34 depend directly or indirectly from independent claim 32 and

are allowable for at least the reasons recited above with respect to their parent claim 32.

Moreover, claims 33 and 34 recite combinations of features that are independently patentable.

Accordingly, Applicants respectfully request that the 35 U.S.C. § 102(b) rejections of dependent

claims 33 and 34 be withdrawn.


*Claim 35*

Independent claim 35 is directed to a machine readable medium having stored thereon

machine executable instructions that when executed implemented a method that requires:

"receiving the **state information** from the first simulation model" (emphasis added).

Klein fails to teach or suggest state information, much less receiving the state information

from the first simulation model, as recited in independent claim 35.  Accordingly, Applicants

respectfully request that the 35 U.S.C. § 102(b) rejection of independent claim 35 be withdrawn.

*Claim 36*

Independent claim 36 is directed to a machine readable medium having stored thereon machine executable instructions that when executed implemented a method that requires: "reading **state information** form a first simulation model in a simulation environment when a simulation domain of the first simulation model is deactivated" (emphasis added).

Klein fails to teach or suggest state information, much less reading state information from a first simulation model, as recited in independent claim 36. Accordingly, Applicants respectfully request that the 35 U.S.C. § 102(b) rejection of independent claim 36 be withdrawn.

### *Patentability of Claim 13 over Aleksic in view of Klein under 35 U.S.C. § 103(a)*

Dependent claim 13 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,995,736 to Aleksic et al. ("Aleksic") in view of U.S. Patent No. 5,771,370 to Klein ("Klein"). This rejection is respectfully traversed.

Dependent claim 13 depends indirectly from independent claim 1 and is allowable for at least the reasons recited above with respect to its parent claim 1. Furthermore, Aleksic fails to cure the deficiencies of Klein. Moreover, claim 13 recites a combination of features that is independently patentable. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 13 be withdrawn.

### *Patentability of Claim 28 over Dave in view of Klein under 35 U.S.C. § 103(a)*

Dependent claim 28 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,178,542 to Dave ("Dave") in view of U.S. Patent No. 5,771,370 to Klein ("Klein"). This rejection is respectfully traversed.

Dependent claim 28 depends indirectly from independent claim 1 and is allowable for at least the reasons recited above with respect to its parent claim 1. Furthermore, Dave fails to cure the deficiencies of Klein. Moreover, claim 28 recites a combination of features that is independently patentable. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 28 be withdrawn.

### *Patentability of Claim 29 over Eisenhofer in view of Klein under 35 U.S.C. § 103(a)*

Dependent claim 29 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,339,836 to Eisenhofer et al. ("Eisenhofer") in view of U.S. Patent No. 5,771,370 to Klein ("Klein"). This rejection is respectfully traversed.

Dependent claim 29 depends indirectly from independent claim 1 and is allowable for at least the reasons recited above with respect to its parent claim 1. Furthermore, Eisenhofer fails to cure the deficiencies of Klein. Moreover, claim 29 recites a combination of features that is independently patentable. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 29 be withdrawn.
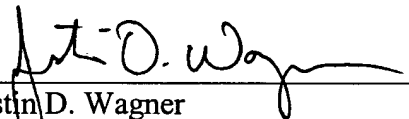
## *Conclusion*

The claims in their present form should be allowed.  Such action is respectfully

requested.

Respectfully submitted,

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By         _____

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